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March 25, 2014

**HAND DELIVERED**

Mr. Eric Massey  
Director, Air Quality Division  
Arizona Department of Environmental Quality  
1110 West Washington Street  
Phoenix, Arizona 85007

**RE: Application for a Minor Permit Revision  
Copper Concentrate Processing Operations  
Freeport-McMoRan Morenci Inc.  
Class I Air Quality Permit #57883**

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Dear Mr. Massey:

In accordance with Arizona Administrative Code (A.A.C.) R18-2-319, Freeport-McMoRan Morenci Inc. (FMMI) is submitting the enclosed minor permit revision (MPR) application to incorporate design changes to the existing copper concentrate processing operations. The modified copper concentrate processing operations will be used to handle the combined copper concentrate produced by the Morenci Concentrator (currently operating) and the Metcalf Concentrator (scheduled to commence operation within the next month).

If you have any questions concerning this application or need additional details, please contact Ken Distler of my staff at (928) 865-6511, or you can contact me directly at (928) 865-6484.

Sincerely,

A handwritten signature in black ink, appearing to read 'Brent Fletcher', with a long horizontal stroke extending to the right.

Brent Fletcher  
Sr. Manager, Southeastern Arizona Administration

**Freeport-McMoRan Morenci Inc.  
Application for a Minor Permit Revision  
Copper Concentrate Processing Operations  
Class I Air Quality Permit #57883  
Morenci, Arizona**

**Submitted to:**

Arizona Department of Environmental Quality  
1110 West Washington Street  
Phoenix, Arizona 85007

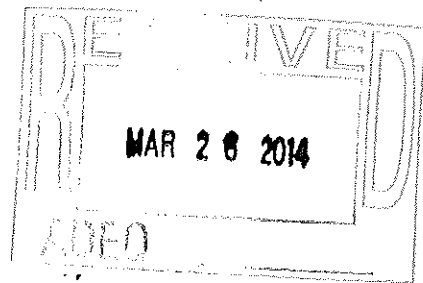
**Submitted by:**

Freeport-McMoRan Morenci Inc.  
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Morenci, Arizona 85540  
Contact: 928.865.6511

**Prepared by:**

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**March 25, 2014**



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## Executive Summary

The Freeport-McMoRan Morenci Inc. (FMMI) facility currently produces copper concentrate from the Morenci Concentrator only. The existing copper concentrate processing operations are comprised of a filter dewatering system (consisting of four small copper filters) and the Bedding Plant. FMMI originally planned to modify these operations by adding two copper filters to handle the increased amount of copper concentrate that will be produced when the Metcalf Concentrator begins operating within the next month. However, during construction of the modified copper concentrate processing operations, FMMI identified several necessary design changes, which FMMI proposes to incorporate into Class I Air Quality Renewal Permit #57883 through this minor permit revision (MPR) application. Key elements of the application are presented below. An application completeness checklist is also included.

### Summary of the Proposed Changes

This MPR application proposes to incorporate the following changes to copper concentrate processing operations:

- Replace the four small copper filters with two large-sized copper filters;
- Add new processing equipment including a screen, two filters, two hoppers, two feeders, and one conveyor; and
- Remove Conveyor Belt 9 and Conveyor Belt 10A North of the Bedding Plant.

The changes to the copper concentrate processing operations will remove three existing emission units and add four new emission units. All of the emission units are material transfer points, which are considered non-fugitive emission sources that contribute to FMMI's potential to emit (PTE). However, the PTE of the emission units are negligible due to the high moisture content of the copper concentrate and the protection of the transfer points from ambient winds.

### Change in Emissions Resulting from the Proposed Changes

A summary of the change in PTE due to this MPR application is presented in the table below.

Summary of the Change in PTE			
Emission Unit Category	PTE (tpy)		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Removed Emission Unit</b> (existing copper concentrate processing operations)	-0.33	-0.16	-0.02
<b>Added Emission Units</b> (modified copper concentrate processing operations)	0.41	0.19	0.03
<b>Change in PTE</b>	0.08	0.04	0.006

### **Compliance Assurance Monitoring (CAM) Applicability**

Because there are no new pollutant-specific emission units proposed as part of this MPR application that use a control device to achieve compliance with an emission limitation or standard, CAM requirements do not apply.

### **Permit Condition Changes**

Due to the changes described in this MPR application, FMML proposes to revise Class I Air Quality Permit #57883 as follows:

- Rename Table C-11 of the equipment list in Attachment “C” for inclusion of all copper concentrate processing operations;
- Add the equipment associated with Process #s 006-391 and 006-392 (additional copper concentrate processing equipment associated with the modified design) to Table C-11 of the equipment list in Attachment “C”; and
- Revise the equipment associated with Process #006-044 (conveyors associated with the Bedding Plant) in Table C-11 of the equipment list in Attachment “C”.

Additionally, to correct an applicability error in FMML’s Class I Air Quality Permit #57883, the following changes are necessary:

- Amend Condition III.A of Attachment “B” to remove reference to the equipment in Table C-11 of the equipment list in Attachment “C”; and
- Amend Conditions IV.A, IV.B, and IV.C of Attachment “B” to include reference to the equipment in Table C-11 of the equipment list in Attachment “C”.

### **MPR Application Requirements**

A completeness checklist listing all of the information required by Arizona Administrative Code (A.A.C.) R18-2-319.D to be submitted with an MPR application and the section or appendix where it can be located in this application is presented in the table on the following page.

Completeness Checklist	
Information Required by A.A.C. R18-2-319.D	Location in Application
Standard Permit Application Forms Including the Compliance Certification and Certification of Truth, Accuracy, and Completeness	Appendix A
Description of the Changes	Section 2
Emissions Resulting from the Changes	Section 3
New Applicable Requirements	Section 5
Suggested Draft Permit	Appendix F

## **1. INTRODUCTION**

In accordance with Arizona Administrative Code (A.A.C.) R18-2-319, Freeport-McMoRan Morenci Inc. (FMRI) is submitting this minor permit revision (MPR) application to incorporate design changes to existing copper concentrate processing operations. The modified copper concentrate processing operations will be used to handle the combined copper concentrate produced by the Morenci and Metcalf Concentrators. The following sections present all of the information required by A.A.C. R18-2-319.D to be submitted with an MPR application. The Standard Permit Application Form including the Compliance Certification and Certification of Truth, Accuracy, and Completeness required for an MPR application is included in Appendix A. A suggested draft MPR is presented in Appendix F.

## 2. DESCRIPTION OF CHANGES

FMMI operates a copper ore mining and processing facility in Morenci, Arizona in accordance with Class I Air Quality Permit #57883. The five major operations at FMMI include: (a) an open-pit copper mine with three in-pit crushers and an ore conveying system (Mining Operations); (b) the Morenci Concentrator; (c) the Metcalf Concentrator; (d) the Metcalf Mine-for-Leach (MFL) Plant; and (e) the copper Solution Extraction and Electrowinning (SX/EW) facilities. FMMI also has thirteen supporting operations. These operations include: (a) two Lime Slaking Plants; (b) a Copper Concentrate Bedding Plant; (c) the Metcalf Combined Cycle Power Plant (CCPP); (d) the tailings systems; (e) diesel, gasoline, and sulfuric acid Storage Tanks; (f) a Concrete Batch Plant; (g) Grizzly Operations; (h) a Concentrate Leach Plant (CLP); (i) Diesel Generator Operations; (j) the VLE Pilot Plant and Laboratory; (k) Combined Molybdenum Flotation Plant and Concentrate Processing Operations; (l) Laboratory Activities; and (m) a Crushing and Screening Plant.

The process flow diagram of the existing copper concentrate processing operations at the FMMI facility is presented in Figure B.1 of Appendix B. FMMI is currently producing copper concentrate using only the Morenci Concentrator. The copper concentrate is processed by the Filter Dewatering System, consisting of four small copper filters, to remove excess water prior to being transferred to Conveyor Belt 9 of the Copper Concentrate Bedding Plant. The Bedding Plant is used to organize and store the copper concentrate prior to further processing by the CLP or shipping offsite to copper smelters.

The recently permitted Metcalf Concentrator is under construction at the FMMI facility and is expected to begin producing copper concentrate within the next month. Originally, FMMI planned to handle the extra copper concentrate produced by the Metcalf Concentrator by adding two additional copper filters to the existing four described above. The two new filters were planned to discharge to Conveyor Belt 9, such that it was not necessary to make any adjustments to the Copper Concentrate Bedding Plant.

However, FMMI has recently reviewed the construction of the modified copper concentrate processing operations and identified several design changes. The process flow diagram of the modified copper concentrate processing operations is presented in Figure C.1 of Appendix C. Copper concentrate from the thickeners will first be processed by the Filter Feed Trash Screen where oversized trash (i.e., plastic material) will be removed from the process and placed in the Filter Feed Trash Bin. The copper concentrate will then be processed by two copper filters (i.e., Copper Filters 1 and 2) to remove excess water. The copper filters will discharge copper concentrate cake to hoppers (i.e., Copper Filter Discharge Hoppers 1 and 2) before being reclaimed by feeders (i.e., Copper Cake Discharge Feeders 1 and 2). The feeders will both discharge to a single conveyor (i.e., Final Concentrate Conveyor), which will transfer the copper concentrate product to existing Conveyor Belt 10A South of the Copper Concentrate Bedding Plant.

The modified design of the copper concentrate processing operations will not affect the maximum potential capacity of the Copper Concentrate Bedding Plant. The Bedding Plant has a maximum potential capacity of 500 tons per hour (tph), which is greater than the amount of copper concentrate that can be produced by both the Morenci and Metcalf Concentrators.



The additional processing equipment described above for the modified copper concentrate processing operations is either located inside a newly constructed building at the FMML facility or covered. This design, along with the use of chutes at conveyor transfer points and the high amount of moisture remaining after being processed by the filters (9.5%), will both prevent the loss of the valuable copper concentrate and minimize particulate matter emissions. Because emissions are negligible, no additional pollution control equipment is necessary for copper concentrate processing operations.

Due to the modified design of the copper concentrate processing operations, FMML proposes to add the following equipment to Class I Air Quality Permit #57883:

- Filter Feed Trash Screen;
- Copper Filter Discharge Hopper 1;
- Copper Filter Discharge Hopper 2;
- Copper Cake Discharge Feeder 1;
- Copper Cake Discharge Feeder 2; and
- Final Concentrate Conveyor.

FMML proposes to add the Filter Feed Trash Screen under Process #006-391 and group all material handling equipment (i.e., Copper Filter Discharge Hoppers 1 and 2, Copper Cake Discharge Feeders 1 and 2, and Final Concentrate Conveyor) under Process #006-392. Because Copper Filters 1 and 2 and the Filter Feed Trash Bin are non-emitting equipment and not subject to any specifically-applicable requirements, it should be unnecessary for this equipment to be added to FMML's Class I Air Quality Permit #57883.

Once the Metcalf Concentrator begins producing copper concentrate and FMML begins to use the modified copper concentrate processing operations, the existing four small copper filters and Conveyor Belt 9 and Conveyor Belt 10A North of the Copper Concentrate Bedding Plant will be removed from the FMML facility. Conveyor Belt 9 and Conveyor Belt 10A North should therefore be removed from Class I Air Quality Permit #57883.

### 3. CHANGE IN EMISSIONS OF REGULATED AIR POLLUTANTS

The regulated air pollutants emitted by the emission units affected by the changes described in this MPR application are limited to the following: particulate matter (PM); particulate matter less than or equal to 10 microns in aerodynamic diameter (PM<sub>10</sub>); and particulate matter less than or equal to 2.5 microns in aerodynamic diameter (PM<sub>2.5</sub>). Details about how the changes described in this MPR application will affect potential emissions from FMMI are discussed below. The methodology used to calculate potential emissions is presented in Appendix D. Detailed calculations of potential emissions and the change in potential emissions are presented in Tables E.1 through E.4 of Appendix E.

The changes to the copper concentrate processing operations will remove three existing emission units and add four new emission units. The following emission units classified under Process #006-044 and associated with the existing copper concentrate processing operations will be removed:

- Material Transfer Point from the Filter Dewatering System to Conveyor Belt 9;
- Material Transfer Point from Conveyor Belt 9 to Conveyor Belt 10A North; and
- Material Transfer Point from Conveyor Belt 10A North to Conveyor Belt 10A South.

Other emission units associated with Process #006-044 will not be affected.

The following emission units classified under Process #006-392 and associated with the modified copper concentrate processing operations will be added:

- Material Transfer Point from Copper Filters 1/2 to Copper Filter Discharge Hoppers 1/2;
- Material Transfer Point from Copper Filter Discharge Hoppers 1/2 to Copper Cake Discharge Feeders 1/2;
- Material Transfer Point from Copper Cake Discharge Feeders 1/2 to the Final Concentrate Conveyor; and
- Material Transfer Point from the Final Concentrate Conveyor to Conveyor Belt 10A South.

All emission units described above are considered non-fugitive emission sources and consequently contribute to FMMI's potential to emit (PTE). The PTE from each of these emission units is presented in Table 3.1. PTE is calculated using maximum hourly process rates, representative emission factors, and continuous operation. The changes to FMMI's PTE due to this MPR application are also presented in Table 3.1.

**Table 3.1 Potential Emissions from the Emission Units Associated with the MPR Application**

Process Number	Emission Unit Description	Non-Fugitive or Fugitive Classification	Process Rate	Regulated Air Pollutant	Potential Emissions	
					Hourly (lb/hr)	Annual (tpy)
Emission Units to be Removed						
006-044	Filter Dewatering System to Conveyor Belt 9	Non-Fugitive	500 tph	PM	0.03	0.11
				PM <sub>10</sub>	0.01	0.05
				PM <sub>2.5</sub>	0.002	0.008
	Conveyor Belt 9 to Conveyor Belt 10A North	Non-Fugitive	500 tph	PM	0.03	0.11
				PM <sub>10</sub>	0.01	0.05
				PM <sub>2.5</sub>	0.002	0.008
	Conveyor Belt 10A North to Conveyor Belt 10A South	Non-Fugitive	500 tph	PM	0.03	0.11
				PM <sub>10</sub>	0.01	0.05
				PM <sub>2.5</sub>	0.002	0.008
--	Total (Emission Units to be Removed)	All Emission Units are Non-Fugitive	--	PM	0.08	0.33
				PM <sub>10</sub>	0.04	0.16
				PM <sub>2.5</sub>	0.005	0.02
Emission Units to be Added						
006-392	Copper Filters 1/2 to Copper Filter Discharge Hoppers 1/2	Non-Fugitive	500 tph	PM	0.02	0.10
				PM <sub>10</sub>	0.01	0.05
				PM <sub>2.5</sub>	0.002	0.007

**Table 3.1 Potential Emissions from the Emission Units Associated with the MPR Application**

Process Number	Emission Unit Description	Non-Fugitive or Fugitive Classification	Process Rate	Regulated Air Pollutant	Potential Emissions	
					Hourly (lb/hr)	Annual (tpy)
Emission Units to be Added (cont'd)						
006-392 (cont'd)	Copper Filter Discharge Hoppers 1/2 to Copper Cake Discharge Feeders 1/2	Non-Fugitive	500 tph	PM	0.02	0.10
				PM <sub>10</sub>	0.01	0.05
				PM <sub>2.5</sub>	0.002	0.007
	Copper Cake Discharge Feeders 1/2 to Final Concentrate Conveyor	Non-Fugitive	500 tph	PM	0.02	0.10
				PM <sub>10</sub>	0.01	0.05
				PM <sub>2.5</sub>	0.002	0.007
	Final Concentrate Conveyor to Conveyor Belt 10A South	Non-Fugitive	500 tph	PM	0.02	0.10
				PM <sub>10</sub>	0.01	0.05
				PM <sub>2.5</sub>	0.002	0.007
--	Total (Emission Units to be Added)	All Emission Units are Non-Fugitive	--	PM	0.09	0.41
				PM <sub>10</sub>	0.04	0.19
				PM <sub>2.5</sub>	0.007	0.03
Change in Potential Emissions						
--	Total (Emission Units to be Added) - Total (Emission Units to be Removed)	All Emission Units are Non-Fugitive	--	PM	0.02	0.08
				PM <sub>10</sub>	0.008	0.04
				PM <sub>2.5</sub>	0.001	0.006

#### **4. CAM APPLICABILITY ANALYSIS**

Pursuant to 40 Code of Federal Regulations (CFR) Part 64.2(a), compliance assurance monitoring (CAM) applies to pollutant-specific emission units (PSEUs) located at a Title V major source if all of the criteria summarized below are met:

- A. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant (or surrogate thereof);
- B. The PSEU uses a control device to achieve compliance with any such emission limitation or standard; and
- C. The PSEU has potential pre-control device emissions (i.e., PTE without consideration of emission reductions due to the use of pollution control devices) of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a Title V major source (100 tons per year).

PSEU is defined in 40 CFR 64 as “an emissions unit considered separately with respect to each regulated air pollutant.” EPA notes in the preamble to the final CAM rule that the term “pollutant-specific emissions unit,” defined in §64.1, is used in Part 64 to clarify that applicability for each pollutant is determined separately at each emission unit. For example, a coal-fired boiler emitting through a single stack could constitute several pollutant-specific emission units, such as for PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, and CO.

This MPR application proposes no PSEUs that are subject to an emission limitation or standard and use a control device to achieve compliance with the emission limitation or standard. Therefore, CAM requirements do not apply and an analysis is not required for this MPR application.

## 5. REGULATORY REQUIREMENTS

The changes described in this MPR application do not trigger any additional regulatory requirements applicable to FMML. Instead, the additional affected facilities of the modified copper concentrate processing operations will be subject to the regulatory requirements of 40 CFR 60, Subpart LL, which are already included in FMML's Class I Air Quality Permit #57883.

The additional affected facilities of the modified copper concentrate processing operations that are subject to the regulatory requirements of 40 CFR 60, Subpart LL include:

- Filter Feed Trash Screen;
- Copper Filter Discharge Hopper 1;
- Copper Filter Discharge Hopper 2;
- Conveyor transfer points to and from Copper Cake Discharge Feeder 1;
- Conveyor transfer points to and from Copper Cake Discharge Feeder 2; and
- Conveyor transfer points to and from the Final Concentrate Conveyor.

40 CFR 60, Subpart LL includes conveyor belt transfer points as affected facilities, but does not include the actual conveyor belts or feeders. A conveyor belt transfer point is defined in 40 CFR 60.381 as "a point in the conveying operation where the metallic mineral or metallic mineral concentrate is transferred to or from a conveyor belt except where the metallic mineral is being transferred to a stockpile."

Details about the regulatory requirements of 40 CFR 60, Subpart LL applicable to the affected facilities associated with this MPR application and the methods used to demonstrate compliance with the applicable requirements are presented in Table 5.1.

**Table 5.1      Applicable Regulatory Requirements and Methods for Demonstrating Compliance**

Equipment/Process	Regulatory Citation for Applicable Requirements	Description of Requirements	Methods Used to Demonstrate Compliance
Filter Feed Trash Screen, Copper Filter Discharge Hoppers 1 and 2, Copper Cake Discharge Feeders 1* and 2*, Final Concentrate Conveyor*  * includes only the transfer points to and from the feeders and conveyor	40 CFR 60.7(a)(1) A.A.C. R18-2-901.1	Provide notification of the date construction commenced postmarked no later than 30 days after such date.	Maintenance of records.
	40 CFR 60.7(a)(3) A.A.C. R18-2-901.1	Provide notification of the actual date of initial startup postmarked within 15 days after such date.	Maintenance of records.
	40 CFR 60.7(b) A.A.C. R18-2-901.1	Maintenance of records of the occurrence and duration of shutdown or malfunction of the emission unit.	Maintenance of records.
	40 CFR 60.7(f) A.A.C. R18-2-901.1	Maintenance of a file of all measurements, including any performance testing measurements. Retention of the file for at least two years following the date of such measurements.	Maintenance of records.
	40 CFR 60.8(a) A.A.C. R18-2-901.1	Completion of performance test in accordance to 40 CFR 60.8 demonstrating compliance with applicable limits within 60 days after achieving the maximum production rate, but no later than 180 days after initial startup. Submittal of written report of the results of the performance tests to the Control Officer and Administrator.	EPA Reference Method 9 Test.

**Table 5.1      Applicable Regulatory Requirements and Methods for Demonstrating Compliance**

Equipment/Process	Regulatory Citation for Applicable Requirements	Description of Requirements	Methods Used to Demonstrate Compliance
	40 CFR 60.8(d) A.A.C. R18-2-901.1	Notification to the Control Officer and Administrator 30 days prior to performance testing.	Maintenance of records.
	40 CFR 60.11(d) A.A.C. R18-2-901.1	Operation of the equipment, to the extent practicable, in a manner consistent with good air pollution control practices for minimizing emissions.	Maintenance of records.
	40 CFR 60.382(b) A.A.C. R18-2-901.43	On or after the sixtieth (60 <sup>th</sup> ) day after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup, fugitive emissions will not exhibit greater than 10 percent (10%) opacity.	EPA Reference Method 9 Test.



## 6. DEMONSTRATION OF COMPLIANCE WITH MPR REQUIREMENTS

Pursuant to A.A.C. R18-2-319.A, MPR procedures may be used only for those changes at a source that satisfy eight requirements. Each of those requirements is addressed below.

1. *The changes must not violate any applicable requirements.*

The changes described in this MPR application will not violate any applicable requirements.

2. *The changes must not involve substantive changes to existing monitoring, reporting, or recordkeeping requirements in the permit.*

No substantive changes to existing monitoring, reporting, or recordkeeping requirements in the permit are proposed in this application.

3. *The changes must not require or change a case-by-case determination of an emission limitation or other standard, or a source specific determination of ambient impacts, or a visibility or increment analysis.*

The changes described in this MPR application affect the primary activity at FMMI (mining and processing of copper ore), which is not a major stationary source as defined in A.A.C. R18-2-401.11. Additionally, as presented in Section 3, the changes do not result in an increase in emissions above the “permitting exemption thresholds” as defined in A.A.C. R18-2-101.99. Consequently, New Source Review (NSR) and Prevention of Significant Deterioration (PSD) permitting are not required for this revision. The changes described in this minor permit revision application will thus not require or change a case-by-case determination of emission limitations, ambient air impacts determinations, or visibility or increment analyses.

4. *The changes must not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject.*

The changes described in this MPR application do not seek to establish or change any permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement.

5. *The changes must not be modifications under any provision of Title I of the Clean Air Act.*

The changes described in this MPR application are not “modifications” under Title I of the Clean Air Act (i.e., a “major modification” subject to major NSR/PSD or a “modification” subject to the NSPS).

6. *The proposed revisions must not involve changes in fuels not represented in the permit application or provided for in the permit.*

No fuel changes are proposed in this application.

7. *The changes are not minor NSR modifications subject to A.A.C. R18-2-334, excluding A.A.C. R18-2-334(G).*

As discussed in Section 3 and shown in Table 3.1, the changes described in this MPR application result in increases in the PTE of regulated minor NSR pollutants that are less than the permitting exemption thresholds. Therefore, the changes are not considered a minor NSR modification.

8. *The changes must not require processing as a significant permit revision under A.A.C. R18-2-320.*

As demonstrated in #1 through #7 above, the changes meet the requirements for processing as an MPR. The changes do not require a significant change in existing monitoring permit terms or conditions or a relaxation of reporting or recordkeeping permit terms or conditions. Furthermore, the changes do not constitute a modification to a major source of federally listed hazardous air pollutants, or reconstruction of a source, process, or production unit under Section 112(g) of the Clean Air Act. Accordingly, the changes do not require processing as a significant permit revision under A.A.C. R18-2-320.

## 7. REVISIONS TO AIR QUALITY PERMIT CONDITIONS

Due to the changes described in this MPR application, FMMI proposes to revise Class I Air Quality Permit #57883 as follows:

- Rename Table C-11 of the equipment list in Attachment “C” for inclusion of all copper concentrate processing operations;
- Add the equipment associated with Process #s 006-391 and 006-392 (additional copper concentrate processing equipment associated with the modified design) to Table C-11 of the equipment list in Attachment “C”; and
- Revise the equipment associated with Process #006-044 (conveyors associated with the Copper Concentrate Bedding Plant) in Table C-11 of the equipment list in Attachment “C”.

FMMI would also like to correct an error in Attachment “B” of Class I Air Quality Permit #57883. Currently, the equipment in Table C-11 of the equipment list in Attachment “C” is incorrectly referenced in the applicability section of Condition III (i.e., Material Transfer Operations). The equipment should actually be referenced in the applicability section of Condition IV (i.e., Concentrator Operations) because it processes and stores copper concentrate. To make this correction, FMMI proposes to revise Class I Air Quality Permit #57883 as follows:

- Amend Condition III.A of Attachment “B” to remove reference to the equipment in Table C-11 of the equipment list in Attachment “C”; and
- Amend Conditions IV.A, IV.B, and IV.C of Attachment “B” to include reference to the equipment in Table C-11 of the equipment list in Attachment “C”.

This correction will also allow the identification of 40 CFR 60, Subpart LL requirements for the additional copper concentrate processing equipment being added through this MPR application while still identifying the requirements of A.A.C. R18-2-721 for other existing equipment in the Copper Concentrate Bedding Plant.

A suggested draft MPR is presented in Appendix F. Because no air pollution control devices are proposed to be installed through this MPR application, FMMI understands that operation of the modified design of the copper concentrate processing operations can begin following submittal of the application. FMMI will comply with both the applicable requirements governing the proposed changes and the revised permit terms and conditions proposed in the suggested draft MPR.

## **APPENDIX A**

**STANDARD PERMIT APPLICATION FORM INCLUDING THE COMPLIANCE  
CERTIFICATION AND CERTIFICATION OF TRUTH, ACCURACY, AND  
COMPLETENESS, EQUIPMENT LIST, AND APPLICATION ADMINISTRATIVE  
COMPLETENESS CHECKLIST**

**ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**Air Quality Division**  
**1110 West Washington • Phoenix, AZ 85007 • Phone: (602) 771-2338**

**STANDARD PERMIT APPLICATION FORM**  
(As required by A.R.S. § 49-426, and Chapter 2, Article 3, Arizona Administrative Code)

1. Permit to be issued to (Business license name of organization that is to receive permit): Freeport-McMoRan Morenci Inc.
  2. Mailing Address: 4521 U.S. Highway 191  
City: Morenci State: Arizona ZIP: 85540
  3. Name (or names) of Owners/Principals: Freeport-McMoRan Copper & Gold, Inc.  
Phone: 602-234-8100 Fax: 602-234-8337 Email: \_\_\_\_\_
  4. Plant/Site Manager/Contact Person and Title: Brent R. Fletcher, Manager, Environmental Services SEAZ  
Phone: 928-865-6240 Fax: 928-865-6484 Email: Brent\_Fletcher@fmi.com
  5. Plant Site Name: Freeport-McMoRan Morenci Inc.  
Plant Site Location/Address: 4521 U.S. Highway 191  
City: Morenci County: Greenlee ZIP: 85540  
Indian Reservation (if applicable, which one): N/A  
Latitude/Longitude, Elevation: 33° 03' 54" N. Latitude/109° 20' 32" W. Longitude, 4,300 feet
  6. Equipment Purpose: Mining and processing of ore to produce copper concentrate, copper cathodes, and molybdenum concentrate.
  7. Type of Organization:  
☒ Corporation    ☐ Individual Owner    ☐ Partnership    ☐ Government Entity  
☐ Other \_\_\_\_\_
  8. Permit Application Basis:    ☐ New Source    ☒ Revision    ☐ Renewal of Existing Permit  
For renewal or modification, include existing permit number (and exp. date): 57883, 01/30/2019  
Date of Commencement of Construction or Modification: After submittal of the application.  
Standard Industrial Classification Code: 1021 State Permit Class: Class I
- I certify that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. I also attest that I am in compliance with the applicable requirements of the Permit and will continue to comply with such requirements and any future requirements that become effective during the life of the Permit. I will present a certification of compliance to ADEQ no less than annually and more frequently if specified by ADEQ.
- I further certify that the proposed project meets the criteria for use of minor permit revision procedures and hereby request that the procedures be used.
9. Signature of Responsible Official of Organization: David Rhoades
  10. Printed Name of Signer/Official Title: David F. Rhoades, General Manager – Administration, Morenci  
Date: 3/25/14 Telephone Number: 928-865-6200

## EQUIPMENT LIST <sup>a,b</sup>

The following table should include all equipment utilized at the facility and be complete with all data requested. Be sure to notate the units (tons/hour, horsepower, etc.) when recording the Maximum Rated Capacity information. Be sure to notate the Serial Number and/or the Equipment ID Number. The date of manufacture must be included in order to determine if portions of the facility are NSPS applicable. Make additional copies of this form if necessary.

Type of Equipment	Maximum Rated Capacity	Make	Model	Serial Number	Date of Manufacture	Equipment ID (Process) Number
Filter Feed Trash Screen	500 tph	TBD	TBD	TBD	TBD	006-391
Copper Filter Discharge Hopper 1	500 tph	TBD	TBD	TBD	TBD	006-392
Copper Filter Discharge Hopper 2	500 tph	TBD	TBD	TBD	TBD	006-392
Copper Cake Discharge Feeder 1	500 tph	TBD	TBD	TBD	TBD	006-392
Copper Cake Discharge Feeder 2	500 tph	TBD	TBD	TBD	TBD	006-392
Final Concentrate Conveyor	500 tph	TBD	TBD	TBD	TBD	006-392

<sup>a</sup> Equipment List includes only equipment subject to permitting and proposed to be added through this MPR application.

<sup>b</sup> TBD = To Be Determined

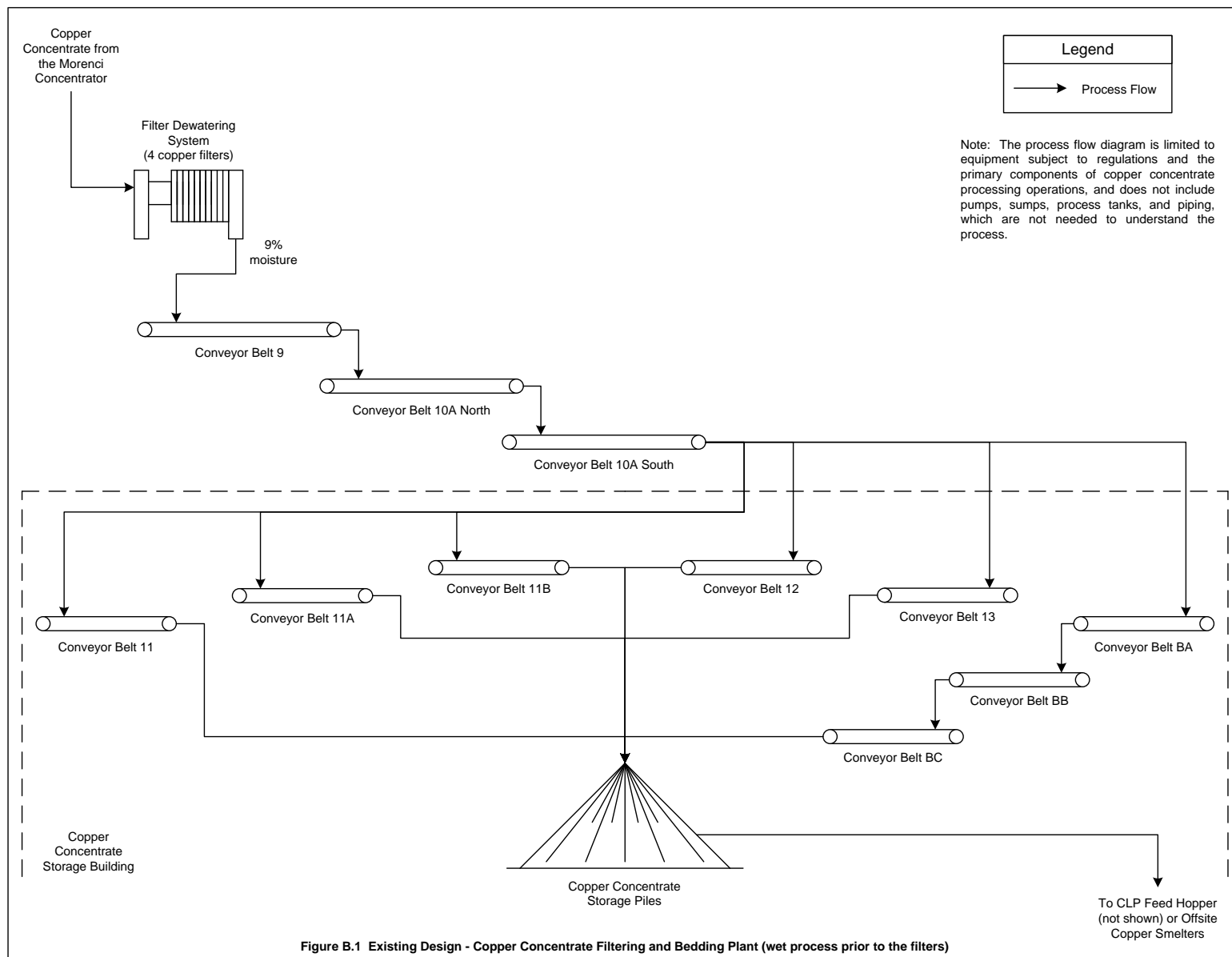
## APPLICATION ADMINISTRATIVE COMPLETENESS CHECKLIST

REQUIREMENT	MEETS REQUIREMENT			COMMENT
	YES	NO	N/A	
Has the standard application form been completed?	X			See Appendix A, Page A1.
Has the responsible official signed the standard application form?	X			See Appendix A, Page A1.
Has a process description been provided?	X			See Section 2.
Are the facility's emissions documented with all appropriate supporting information?	X			See Section 3, Appendix D, and Appendix E
If dispersion modeling is required pursuant to the Department's modeling guidelines, is a comprehensive modeling report attached?			X	Dispersion modeling is not required.
Does the application include an equipment list with the type, name, make, model, serial number, maximum rated capacity, and date of manufacture?	X			See Appendix A, Page A2.
Does the application include an identification and description of Pollution Controls? (if applicable)			X	Pollution controls are not necessary for the proposed changes.
For any application component claimed as confidential, are the requirements of A.R.S. 49-432 and A.A.C. R18-2-305 addressed?			X	No components of the application are confidential.
For any current non-compliance issue, is a compliance schedule attached?			X	There are no non-compliance issues.
For minor permit revisions to major sources or sources that will make a modification upon submittal of application, has a suggested draft permit been attached?	X			See Appendix F.
For major sources, have all applicable requirements been identified?	X			See Section 5.
For major sources, has a CAM applicability analysis been provided? For CAM applicable units, have CAM plans been provided?	X			See Section 4.
For major sources subject to requirements under Article 4 of the A.A.C., have all necessary New Source Review analyses identified in the application been presented?			X	New Source Review analyses are not necessary.

## **APPENDIX B**

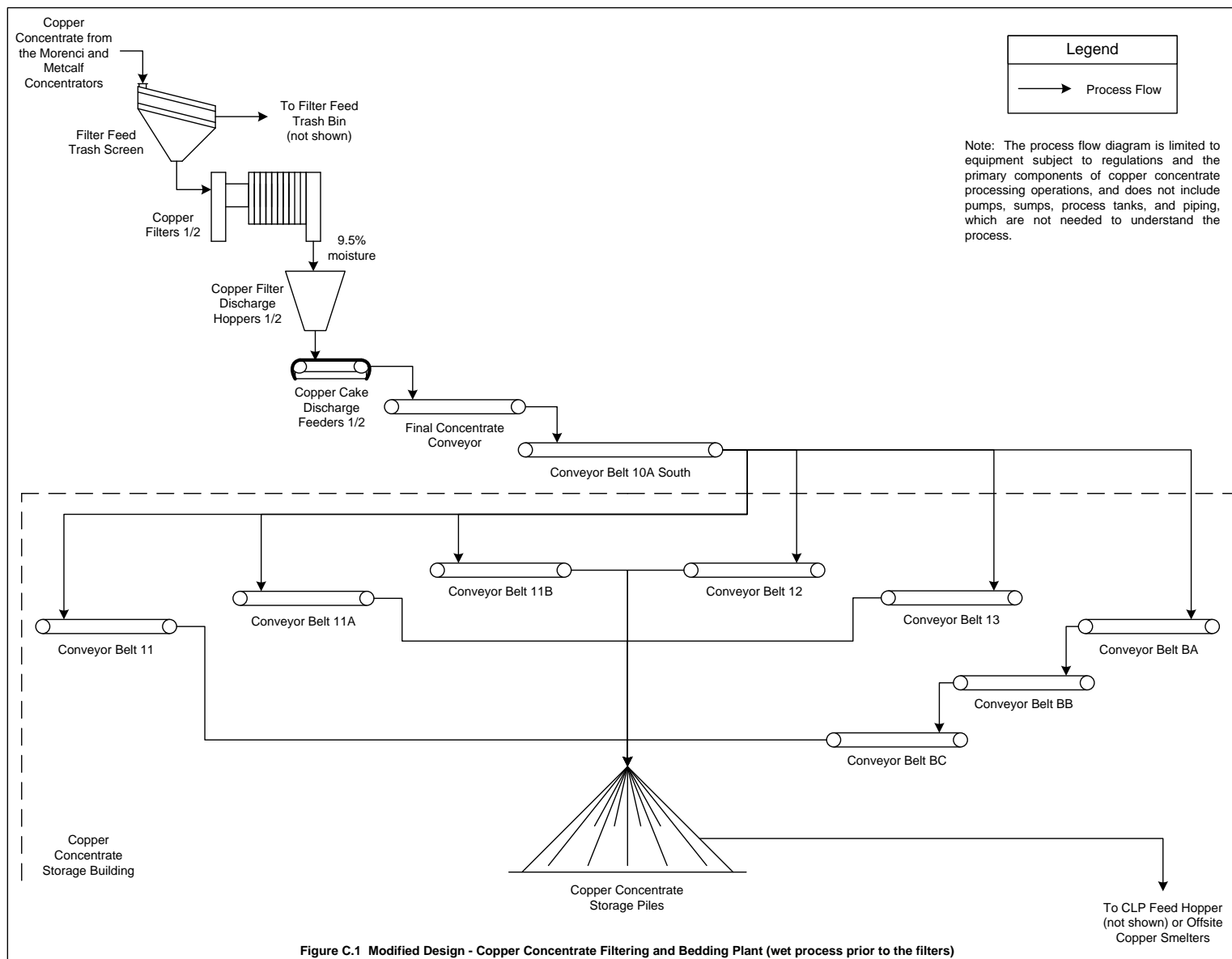
### **PROCESS FLOW DIAGRAM OF THE EXISTING COPPER CONCENTRATE PROCESSING OPERATIONS**





## **APPENDIX C**

### **PROCESS FLOW DIAGRAM OF THE MODIFIED COPPER CONCENTRATE PROCESSING OPERATIONS**



## **APPENDIX D**

### **CALCULATION METHODOLOGY FOR PTE CALCULATIONS**

## D1 INTRODUCTION

The methodology used to calculate the emission rates presented in this MPR application is explained in the following sections. Section D2 describes the process rates, Section D3 describes the emission factors, and Section D4 describes the capture/control efficiencies. The emission units associated with this MPR application are limited to material transfer points.

## D2 PROCESS RATES

The annual and hourly process rates for the material transfer points are based on the maximum hourly process rate of the transfer and continuous operation (8,760 hours/year). The Copper Concentrate Bedding Plant has a maximum potential capacity of 500 tph. Although the amount copper concentrate produced by the Morenci and Metcalf Concentrators is not expected to reach 500 tph, emissions are calculated using the maximum potential process rate as a worst case emission estimate.

The maximum hourly process rates for the material transfer points are presented in Table D.1. Table D.1 also presents what type of material is being transferred.

## D3 EMISSION FACTORS

Uncontrolled PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from the material transfer points are calculated using the following emission factor expression from AP-42, Section 13.2.4.3 (11/06) for aggregate drop processes:

$$EF = (k)(0.0032) \left( \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \right)$$

where:

- |    |   |  |
|----|---|--|
| EF | = | emission factor (lb/ton)   |
| k  | = | particle size multiplier (0.74 for PM, 0.35 for PM <sub>10</sub> , 0.053 for PM <sub>2.5</sub> ) |
| U  | = | mean wind speed (mph)  |

The ambient average wind speed at the FMFI facility is 6.5 mph. This wind speed is used for unprotected material transfer points subject to ambient winds.

The lowest wind speed able to be used in the aggregate drop process equation and retain an A rating is 1.3 mph. This wind speed is used for material transfer points located indoors or underground or shielded from the ambient winds by enclosures or chutes.

M = material moisture content (9% for copper concentrate processed by the existing copper filters and 9.5% for copper concentrate processed by the copper filters in the modified design)

The mean wind speed and material moisture content used in the aggregate drop process equation to calculate the emission factors for each material transfer point are presented in Table D.1.

#### **D4 CAPTURE/CONTROL EFFICIENCIES**

The capture and/or control method used at each of the material transfer points and the associated efficiency for each method is presented in Table D.1. When a control efficiency is incorporated into the emission factor, FMML assumes there is no additional reduction in emissions (i.e., 0% control efficiency).

**Table D.1 Maximum Hourly Process Rates, Mean Wind Speeds, Material Moisture Contents, Control Methods, and Efficiencies for the Material Transfer Points**

Process Number	Material Transfer Point Description	Maximum Hourly Process Rate	Type of Material Transferred	Mean Wind Speed	Material Moisture Content	Control Method	Control Efficiency
006-044	Filter Dewatering System to Conveyor Belt 9	500 tph	Copper Concentrate	1.3 mph (protected)	9%	Located Underground	0% (incorporated into reduced wind speed)
	Conveyor Belt 9 to Conveyor Belt 10A North	500 tph	Copper Concentrate	1.3 mph (protected)	9%	Located Underground	0% (incorporated into reduced wind speed)
	Conveyor Belt 10A North to Conveyor Belt 10A South	500 tph	Copper Concentrate	1.3 mph (protected)	9%	Located Underground	0% (incorporated into reduced wind speed)
006-392	Copper Filters 1/2 to Copper Filter Discharge Hoppers 1/2	500 tph	Copper Concentrate	1.3 mph (protected)	9.5%	Located Indoors	0% (incorporated into reduced wind speed)
	Copper Filter Discharge Hoppers 1/2 to Copper Cake Discharge Feeders 1/2	500 tph	Copper Concentrate	1.3 mph (protected)	9.5%	Located Indoors	0% (incorporated into reduced wind speed)
	Copper Cake Discharge Feeders 1/2 to Final Concentrate Conveyor	500 tph	Copper Concentrate	1.3 mph (protected)	9.5%	Use of a Chute	0% (incorporated into reduced wind speed)
	Final Concentrate Conveyor to Conveyor Belt 10A South	500 tph	Copper Concentrate	1.3 mph (protected)	9.5%	Use of a Chute	0% (incorporated into reduced wind speed)

## **APPENDIX E**

### **EMISSION INVENTORY TABLES FOR PTE**



Table E.1 Particulate Matter Emission Factors - PTE Calculations													
Process Code	Process Description	SCC Code	Emission Factors				Process Rate Units	Particulate Matter Emission Factor Inputs <sup>a</sup>					Reference
			PM	PM <sub>10</sub>	PM <sub>2.5</sub>	Units		k (PM)	k (PM <sub>10</sub> )	k (PM <sub>2.5</sub> )	U (mph)	M (%)	
CCTrPrt-E	Material Transfer of Copper Concentrate (Protected) - From Existing Copper Filters	3-03-024-08	0.00005	0.00002	0.000004	lb/ton	tons	0.74	0.35	0.053	1.3	9	AP-42, Section 13.2.4, Expression 1 (11/06)
CCTrPrt-M	Material Transfer of Copper Concentrate (Protected) - From Copper Filters in the Modified Design	3-03-024-08	0.00005	0.00002	0.000003	lb/ton	tons	0.74	0.35	0.053	1.3	9.5	AP-42, Section 13.2.4, Expression 1 (11/06)

<sup>a</sup> k = particle size multipliers, U = mean wind speed, M = material moisture content

Table E.2 Particulate Matter Control Efficiencies - PTE Calculations			
Control Code	Control Description	Control Efficiency (%)	Reference
IncorpIWS	Control Efficiency of Reduced Wind Speed Incorporated into Emission Factor	0%	Assumed
None	No Pollution Controls	0%	Assumed

Table E.3 Annual Particulate Matter Emissions - PTE Calculations																		
Emission Unit ID	Emission Unit Description	Process Code	SCC	Non-Fug. (NF) / Fug. (F)	Annual Process Rate	Rate Units	Emission Factors			EF Units	Control Code	Pick-up or Control Eff. (%)	PM Emissions (tpy)		PM <sub>10</sub> Emissions (tpy)		PM <sub>2.5</sub> Emissions (tpy)	
							PM	PM <sub>10</sub>	PM <sub>2.5</sub>				Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
Prior to the MPR Application																		
006-044	Filter Dewatering System to Conveyor Belt 9	CCTrPrt-E	3-03-024-08	NF	4,380,000	tons	0.00005	0.00002	0.000004	lb/ton	IncorpIWS	0%	0.11	0.11	0.05	0.05	0.008	0.008
	Conveyor Belt 9 to Conveyor Belt 10A North	CCTrPrt-E	3-03-024-08	NF	4,380,000	tons	0.00005	0.00002	0.000004	lb/ton	IncorpIWS	0%	0.11	0.11	0.05	0.05	0.008	0.008
	Conveyor Belt 10A North to Conveyor Belt 10A South	CCTrPrt-E	3-03-024-08	NF	4,380,000	tons	0.00005	0.00002	0.000004	lb/ton	IncorpIWS	0%	0.11	0.11	0.05	0.05	0.008	0.008
Total of Non-Fugitive Emissions Prior to the MPR Application:													0.33	0.33	0.16	0.16	0.02	0.02
After the MPR Application																		
006-392	Copper Filters 1/2 to Copper Filter Discharge Hoppers 1/2	CCTrPrt-M	3-03-024-08	NF	4,380,000	tons	0.00005	0.00002	0.000003	lb/ton	IncorpIWS	0%	0.10	0.10	0.05	0.05	0.007	0.007
	Copper Filter Discharge Hoppers 1/2 to Copper Cake Discharge Feeders 1/2	CCTrPrt-M	3-03-024-08	NF	4,380,000	tons	0.00005	0.00002	0.000003	lb/ton	IncorpIWS	0%	0.10	0.10	0.05	0.05	0.007	0.007
	Copper Cake Discharge Feeders 1/2 to Final Concentrate Conveyor	CCTrPrt-M	3-03-024-08	NF	4,380,000	tons	0.00005	0.00002	0.000003	lb/ton	IncorpIWS	0%	0.10	0.10	0.05	0.05	0.007	0.007
	Final Concentrate Conveyor to Conveyor Belt 10A South	CCTrPrt-M	3-03-024-08	NF	4,380,000	tons	0.00005	0.00002	0.000003	lb/ton	IncorpIWS	0%	0.10	0.10	0.05	0.05	0.007	0.007
Total of Non-Fugitive Emissions After the MPR Application:													0.41	0.41	0.19	0.19	0.03	0.03
Change in Non-Fugitive Emissions Due to the MPR Application:													0.08	0.08	0.04	0.04	0.006	0.006

Table E.4 Maximum Hourly Particulate Matter Emissions - PTE Calculations																		
Emission Unit ID	Emission Unit Description	Process Code	SCC	Non-Fug. (NF) / Fug. (F)	Hourly Process Rate	Rate Units	Emission Factors			EF Units	Control Code	Pick-up or Control Eff. (%)	PM Emissions (lb/hr)		PM <sub>10</sub> Emissions (lb/hr)		PM <sub>2.5</sub> Emissions (lb/hr)	
							PM	PM <sub>10</sub>	PM <sub>2.5</sub>				Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
Prior to the MPR Application																		
006-044	Filter Dewatering System to Conveyor Belt 9	CCTrPrt-E	3-03-024-08	NF	500	tons	0.00005	0.00002	0.000004	lb/ton	IncorpIWS	0%	0.03	0.03	0.01	0.01	0.002	0.002
	Conveyor Belt 9 to Conveyor Belt 10A North	CCTrPrt-E	3-03-024-08	NF	500	tons	0.00005	0.00002	0.000004	lb/ton	IncorpIWS	0%	0.03	0.03	0.01	0.01	0.002	0.002
	Conveyor Belt 10A North to Conveyor Belt 10A South	CCTrPrt-E	3-03-024-08	NF	500	tons	0.00005	0.00002	0.000004	lb/ton	IncorpIWS	0%	0.03	0.03	0.01	0.01	0.002	0.002
Total of Non-Fugitive Emissions Prior to the MPR Application:													0.08	0.08	0.04	0.04	0.005	0.005
After the MPR Application																		
006-392	Copper Filters 1/2 to Copper Filter Discharge Hoppers 1/2	CCTrPrt-M	3-03-024-08	NF	500	tons	0.00005	0.00002	0.000003	lb/ton	IncorpIWS	0%	0.02	0.02	0.01	0.01	0.002	0.002
	Copper Filter Discharge Hoppers 1/2 to Copper Cake Discharge Feeders 1/2	CCTrPrt-M	3-03-024-08	NF	500	tons	0.00005	0.00002	0.000003	lb/ton	IncorpIWS	0%	0.02	0.02	0.01	0.01	0.002	0.002
	Copper Cake Discharge Feeders 1/2 to Final Concentrate Conveyor	CCTrPrt-M	3-03-024-08	NF	500	tons	0.00005	0.00002	0.000003	lb/ton	IncorpIWS	0%	0.02	0.02	0.01	0.01	0.002	0.002
	Final Concentrate Conveyor to Conveyor Belt 10A South	CCTrPrt-M	3-03-024-08	NF	500	tons	0.00005	0.00002	0.000003	lb/ton	IncorpIWS	0%	0.02	0.02	0.01	0.01	0.002	0.002
Total of Non-Fugitive Emissions After the MPR Application:													0.09	0.09	0.04	0.04	0.007	0.007
Change in Non-Fugitive Emissions Due to the MPR Application:													0.02	0.02	0.008	0.008	0.001	0.001

**APPENDIX F**  
**SUGGESTED DRAFT MPR**

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Air Quality Division

1110 W. Washington St. • Phoenix • AZ 85007 • Phone: (602) 771-2316

**MINOR PERMIT REVISION TO AIR QUALITY CONTROL PERMIT**

(As required by Title 49, Chapter 3, Article 2, Section 49-426, Arizona Revised Statutes)

*This air quality control permit does not relieve applicant of meeting all air pollution regulations.*

1. PERMIT TO BE ISSUED TO (Business license name of organization that is to receive permit): **Freeport-McMoRan Morenci Inc.**

2. NAME (OR NAMES) OF OWNER OR PRINCIPLES DOING BUSINESS AS THE ABOVE ORGANIZATION: **Freeport-McMoRan Morenci Inc.**

3. MAILING ADDRESS: **4521 U.S. Highway 191**  
NUMBER STREET  
**Morenci** **Arizona** **85540**  
CITY STATE ZIP CODE

4. ORIGINAL EQUIPMENT LOCATION/ADDRESS: **4521 U.S. Highway 191**  
NUMBER STREET  
**Morenci** **Greenlee County** **Arizona** **85540-9795**  
CITY COUNTY STATE ZIP CODE

5. FACILITIES OR EQUIPMENT DESCRIPTION: **Copper Mining Facility**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. THIS REVISION ISSUED SUBJECT TO THE FOLLOWING: **Conditions as described in attached.**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. ADEQ MINOR REVISION NUMBER: **To Be Assigned by ADEQ** PERMIT CLASS: **Class I**

MINOR REVISION ISSUED THIS **TBD** DAY OF **TBD**, 2014

**Eric Massey, Director, Air Quality Division**  
SIGNATURE TITLE

## MINOR PERMIT REVISION DESCRIPTION

This minor permit revision authorizes Freeport-McMoRan Morenci Inc. (FMML), the Permittee, to operate a modified version of the copper concentrate processing operations that will process the combined copper concentrate produced by the Morenci and Metcalf Concentrators. Additionally, this minor permit revision corrects the applicability sections of Conditions III and IV to properly reference the equipment associated with copper concentrate processing operations. The changes meet all the requirements for a minor permit revision outlined in A.A.C. R18-2-319.A.

### **ATTACHMENT "B": SPECIFIC CONDITIONS** **Addenda (Minor Revision # To be assigned by ADEQ)** **to Operating Permit #57883 for** **Freeport-McMoRan Morenci Inc.**

The following changes shall be made to the requirements set forth in Attachment "B" of Class I Air Quality Permit #57883.

Condition III.A is amended to read as follows:

#### **III.A Applicability**

This Section is applicable to the equipment and activities related to material transfer from the Mine to the Metcalf MFL Plant and Metcalf/Morenci Concentrators and from the Metcalf MFL Plant to the copper leaching stockpiles. These are listed in Table C-2: Operation 001 - Mine (Material Transfer Operations), Table C-4: Operation 003 - Metcalf MFL Plant Reclaim Conveyors (Material Transfer Operations), and Table C-6: Operation 003 - Metcalf MFL Plant Conveyor Stacking Systems (Material Transfer Operations) in the Equipment List, Attachment "C" of this Permit.

Condition IV.A is amended to read as follows:

#### **IV.A Applicability**

This Section is applicable to the equipment related to the Concentrators listed in Tables C-3: Operation 002 - Morenci Concentrator, Table C-5: Operation 003 - Metcalf MFL Plant Crushing Operations, Table C-7: Operation 017 - Metcalf Concentrator, Table C-8: Operation 018 - Combined Molybdenum Flotation Plant/Concentrate Processing Operations, and Table C-11: Operation 006 - Copper Concentrate Processing Operations, Equipment List, Attachment "C" of this Permit.

Condition IV.B is amended to read as follows:

**IV.B** For equipment subject to the Standards of Performance for Existing Nonferrous Metals Industry Sources (Equipment identified as "No" in Column 8, Table C-3: Operation 002 - Morenci Concentrator, Table C-5: Operation 003 - Metcalf MFL Plant Crushing Operations,

and Table C-11: Operation 006 – Copper Concentrate Processing Operations, Equipment List, Attachment "C" of this Permit) the Permittee shall comply with the following requirements for control of emissions of Particulate Matter and Opacity:

Condition IV.C is amended to read as follows:

**IV.C** For equipment subject to the New Source Performance Standards (Equipment identified as "Yes" in Column 8, Table C-3: Operation 002 - Morenci Concentrator, Table C-5: Operation 003 - Metcalf MFL Plant Crushing Operations, Table C-7: Operation 017 - Metcalf Concentrator, Table C-8: Operation 018 - Combined Molybdenum Flotation Plant/Concentrate Processing Operations, and Table C-11: Operation 006 – Copper Concentrate Processing Operations, Equipment List, Attachment "C" of this Permit) the Permittee shall comply with the following requirements for control of emissions of Particulate Matter and Opacity:



**ATTACHMENT "C": EQUIPMENT LIST**  
**Addenda (Minor Revision # To be assigned by ADEQ)**  
**to Operating Permit #57883 for**  
**Freeport-McMoRan Morenci Inc.**

1. Equipment associated with Process #006-044 in Table C-11, Operation 006 – Copper Concentrate Bedding Plant shall be removed.
2. Table C-11 shall be renamed Operation 006 – Copper Concentrate Processing Operations.
3. The following equipment shall be added to renamed Table C-11, Operation 006 – Copper Concentrate Processing Operations:

<b>Table C-11 Operation 006 – Copper Concentrate Processing Operations</b>							
<b>Process Number</b>	<b>Equipment</b>	<b>Make</b>	<b>Model</b>	<b>Serial No.</b>	<b>Year of Manufacture</b>	<b>Design Capacity</b>	<b>NSPS Applicable</b>
044	Conveyor Belt 10A South	FMMI	TBD x 24"W	Custom Fabricated	1941	500 tph	No
	Conveyor Belt 11	FMMI	660'L x 24"W	Custom Fabricated	1941	500 tph	No
	Conveyor Belt 11A	FMMI	660'L x 24"W	Custom Fabricated	1941	500 tph	No
	Conveyor Belt 11B	FMMI	660'L x 24"W	Custom Fabricated	1941	500 tph	No
	Conveyor Belt 12	FMMI	62'L x 24"W	Custom Fabricated	1941	500 tph	No
	Conveyor Belt 13	FMMI	134'L x 24"W	Custom Fabricated	1941	500 tph	No
	Conveyor Belt BA	FMMI	660'L x 24"W	Custom Fabricated	1941	500 tph	No
	Conveyor Belt BB	FMMI	660'L x 24"W	Custom Fabricated	1941	500 tph	No
	Conveyor Belt BC	FMMI	660'L x 24"W	Custom Fabricated	1941	500 tph	No

Table C-11 Operation 006 – Copper Concentrate Processing Operations							
Process Number	Equipment	Make	Model	Serial No.	Year of Manufacture	Design Capacity	NSPS Applicable
391	Filter Feed Trash Screen	TBD	TBD	TBD	TBD	500 tph	Yes
392	Copper Filter Discharge Hopper 1	TBD	TBD	TBD	TBD	500 tph	Yes
	Copper Filter Discharge Hopper 2	TBD	TBD	TBD	TBD	500 tph	Yes
	Copper Cake Discharge Feeder 1	TBD	TBD	TBD	TBD	500 tph	Yes
	Copper Cake Discharge Feeder 2	TBD	TBD	TBD	TBD	500 tph	Yes
	Final Concentrate Conveyor	TBD	TBD	TBD	TBD	500 tph	Yes